(No Model.)

D. W. SMITH.

THILL COUPLING.

No. 386,222. Patented July 17, 1888.

Fig. 1.

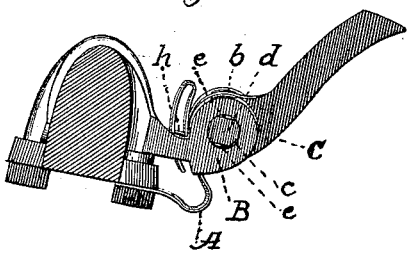


Fig. 2.

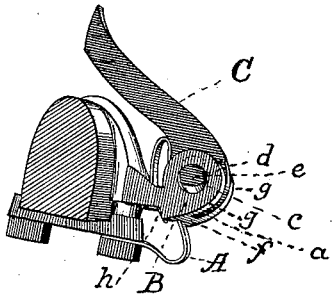
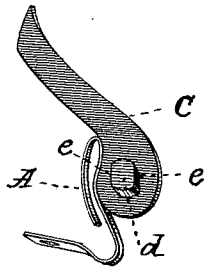


Fig. 3.



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UNITED STATES PATENT OFFICE.

DAVID WARREN SMITH, OF WABASH, INDIANA.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 386,222, dated July 17, 1888.

Application filed November 11, 1887. Serial No. 254,937. (No model.)

To all whom it may concern:

Be it known that I, DAVID WARREN SMITH, a citizen of the United States, residing at Wabash, in the county of Wabash and State of Indiana, have invented a new and Improved Combined Thill-Coupling, Anti-Rattler, and Shaft-Holder, of which the following is a clear, full, and exact description.

My invention relates to combined thill-couplers, anti-rattlers, and shaft-holders, and has for its object to improve the construction of the thill-coupling for which United States Letters Patent No. 246,508 were granted to F. Hoffman, August 30, 1881, and to combine therewith an anti-rattler and shaft-holder, thereby obtaining a more useful coupling.

My invention consists in the construction and combination of the several parts, as will be hereinafter more fully set forth.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the thill-coupling and anti-rattler. Fig. 2 is a perspective view of the thill-coupling and anti-rattler, showing the shaft held in an upright position. Fig. 3 is the anti-rattler and thill-iron, showing the combination forming the shaft-holder.

In the drawings, A represents the anti-rattler; B, the coupler or shackle, and C the thill-iron which couples in the shackle.

The anti-rattler A is secured at its lower end by the nut securing clip-tie to the clip, and extends outward, curving slightly downward; then with an oval curve extends upward and slightly backward, passing through the opening *h* back of the shackle, so as to press against the connection *f* and against the thill-iron C when adjusted; then slightly forward and upward, and with a shorter oval curve it again extends downward, with a gradual curve back through the opening *h*.

In the front end of the shackle B is a perpendicular slot, *a*, extending through the round part of the shackle, except at the bottom and back part, *f*, where it is left connected to prevent the anti-rattler from flying forward when the thill-iron is removed, thus forming lugs or ears *g g*. On the top of the shackle B is an oblong opening, *b*, which runs crosswise of the shackle, and, crossing the slot *a*, forms a T-shaped opening in the outer end and top of the shackle. A round opening, *c*, passes horizontally entirely through both ears of the shackle B, intersecting the slot *a* and opening *b*, as shown. Back of the connection *f* is a square opening, *h*, passing perpendicularly through the extension of the clip back of the ears of the shackle, through which passes the anti-rattler, as shown in the drawings, which are part of this specification.

The thill-iron C is made with flattened sides and fits in the slot *a* in the shackle B. On each side of the thill-iron C, near its connecting end, are cylinder-shaped shoulders *d*, of the proper size to fit in the opening *c*. They must in length fit the oblong opening *b*, and have their sides *e e* flattened sufficiently to permit them to pass through the oblong opening *b* when shaft or thill is raised, as in Fig. 2.

By the peculiar curves of the anti-rattler A, which is fastened at lower end by nut securing clip-tie, the square opening *h*, through which passes the anti-rattler, the peculiar shape of the thill-iron C, with shoulders *d*, with flattened sides *e e*, and of the shackle B, the thill-iron C, when shafts are raised, as shown in Figs. 2 and 3, is pressed upward by the anti-rattler A sufficiently for the flattened sides *e e* of the shoulders *d* to rest against the sides of the oblong opening *b* in the shackle B, and thus hold the shafts in an upright position and form a simple and perfect shaft-holder.

By the peculiar arrangements of the openings *b* and *c*, the slot *a* of the shackle B, the anti-rattler A, and shoulders *d*, with flattened sides *e e*, and of the thill-iron C, when the thill C is adjusted in the shackle B and let down, as when in use, Fig. 1, it is impossible for it to become detached, and it therefore forms a simple, safe, and handy coupling.

This construction is far superior to that shown in the Patent No. 246,508, aforesaid, wherein the ears forming the shackle are projections of the clip, have recesses in their inner walls, and are entirely disconnected. The thill-iron has an oval head and elongated lugs, and derives no support from an anti-rattler.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a clip and thill-

iron having lugs, as described, of the shackle composed of the two parallel branches having their inner walls vertically grooved and the apertures at the base thereof for the reception of the thill-iron lugs, the said branches having the connection *f*, which serves the additional function of a stop for the anti-rattler, and also having a rear vertical aperture for the loop of the said anti-rattler, substantially as specified.

2. The combination of a shackle, substantially as described, having the connection *f* for the two parallel branches, and the vertical slot in rear thereof, and the anti-rattler, of the form shown, its lower end secured to the shaft-clip and passing in loop form up through the said vertical slot, and having a forward bearing against the said connection, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID WARREN SMITH.

Witnesses:

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